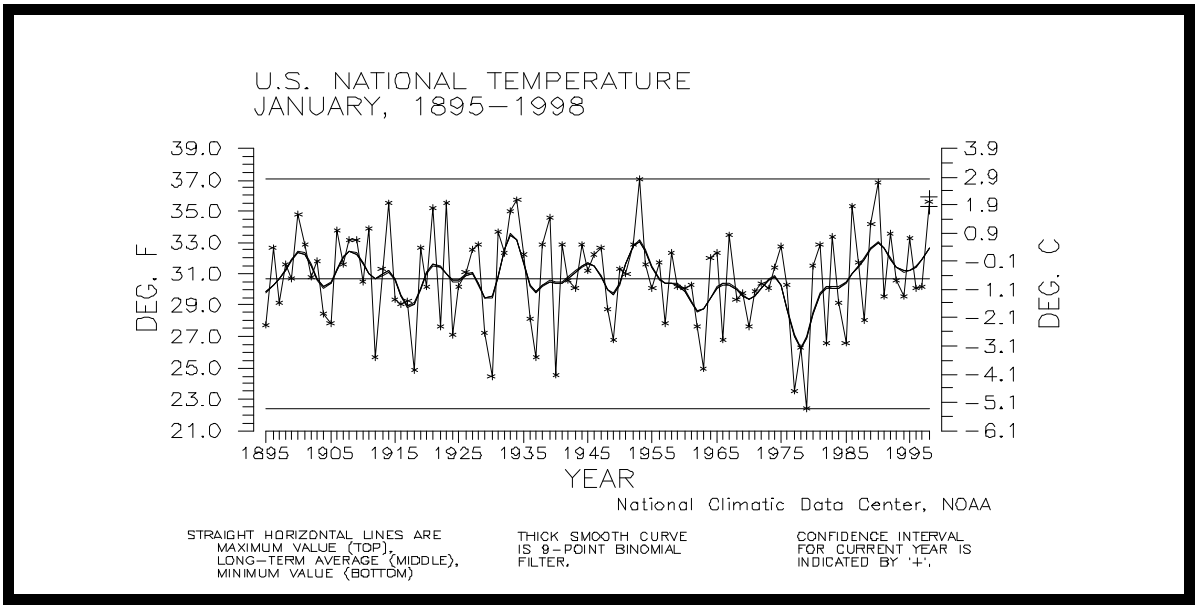
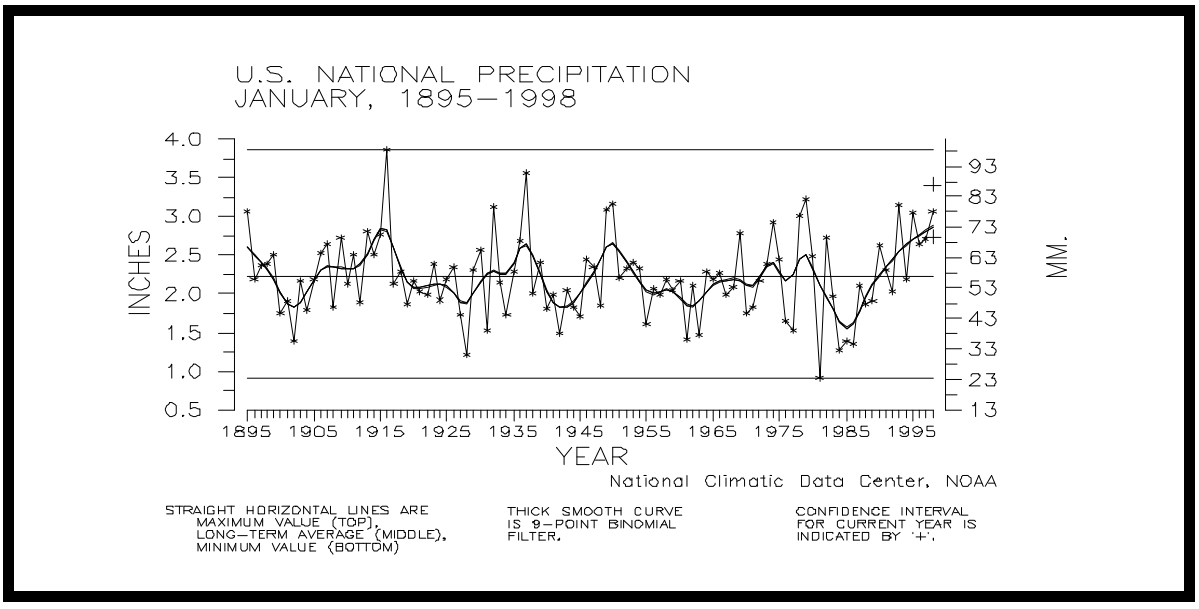
Monthly Activity Report

January 1998





Preliminary data for January 1998 indicate that temperature averaged across the contiguous U.S. was above the long-term mean, ranking as the fourth warmest January since 1895 (Top Figure). Nearly 30 percent of the country was much warmer than normal; none of the country was much cooler than normal.

Preliminary precipitation data indicate that January 1998 was the eighth wettest such month since 1895 (Bottom Figure). Over 21 percent of the country experienced much wetter than normal conditions while about five percent of the country was much drier than normal.

DIRECTOR'S HIGHLIGHTS

1997 Climate - World Temperatures Remain Warm

The preliminary 1997 global surface temperature data products prepared by the National Climatic Data Center (NCDC) and presented by Tom Karl, Tom Peterson, and Joe Friday at the National Press Club on January 8, 1998, got global press coverage and were used by President Clinton in continuing international negotiations regarding a climate change treaty. Preliminary conclusions were that for land stations, 1997 was among the warmest few years this century; and for a land-sea surface temperature index devised at NCDC, 1997 was the warmest year in the century (due in part to the very warm El Niño sea temperatures). These general conclusions were consistent with other summaries of surface temperature produced in the United Kingdom and in the U.S. by the National Aeronautics and Space Administration.

Station History Rescue Completed

The National Climatic Data Center's metadata rescue project for station history forms has been completed. The project, which began four years ago under Environmental Sciences Data Information Management sponsorship, involved the digitization of late 1800's through 1948 station history records. Approximately 25,000 unique stations were identified for this period, totaling about 100K keypunched records. The keypunching was completed in 1996 and the quality assurance of these records was completed in January 1998. This new metadata collection is now available for browsing via PC CliServ.

Regional Climate Centers

The National Environmental Satellite, Data, and Information Services' (NESDIS) Robert Winokur and Krishna Rao, and National Climatic Data Center staff members met with the Directors of the six Regional Climate Centers (RCC) for the first time since the RCC Program was moved to NESDIS. Items discussed were cooperative efforts in customer servicing, climate monitoring, and data acquisition. These efforts will form the foundation for this year's funding proposal. Other items discussed included staff exchanges, applied research projects, joint workshops, and data sharing. In an effort to move the RCC Program from a yearly Congressional add-on to a base budget activity, a FY 2000 initiative paper was submitted. The plan is to deepen cooperation and joint activities with the RCCs and State Climatologists in order to com-plete more detailed databases, document climate impacts, and offer better customer service.

NCDC Participates in the 1998 AMS Meeting

Ten National Climatic Data Center (NCDC) scientists attended the annual American Meteorological Society (AMS) meeting in Phoenix, AZ, January 11-16, 1998. NCDC researchers presented papers and posters, chaired various sessions, and staffed the NCDC exhibit booth. NCDC was one of a dozen National Oceanic and Atmospheric Administration exhibitors at the conference. Many attendees stopped by the NCDC booth to check out our web site and to obtain the latest "Products and Services Guide" and other brochures and handouts. Favorable comments were received on the new NCDC home page and the web site, which provides menu-driven access to climate, satellite, or radar resources for on-line data retrieval. Visitors to the booth were impressed by the variety and scope of NCDC's products and services, and several expressed interest in our new climatological CD-ROM products which work under a Windows 95 environment.

January Customer Service Statistics Demonstrate Shift To Online Service

The growing preference for electronic mail as the contact media of choice is evidenced by the 8 percent annual increase in requests received during January 1998 via the National Climatic Data Center's (NCDC) orders @ NCDC address. January was the first full month of operation for the new National Oceanic and Atmospheric Administration National Data Centers' Online Data Store Web Site. Customers utilized this new online data source to retrieve Form 10A/10B surface data and unedited LCD summaries. In January, there were 38,000 hits by 1,900 unique users who accessed 430 megabytes of data from this new web site. The trend toward more online access of NCDC data is expected to continue.

CLIMATE DATA AND INFORMATION SERVICES

✦ Data Base Development

CD-ROM status

The National Climatic Data Center completed work on the 12-year Normalized Difference Vegetation Index CD-ROM. This project was coordinated with the Office of Research and Applications' Land Surfaces Branch.

Unisys SMP and Year 2000 Remediation

The division and staff chiefs presented their respective Plan of Action and Milestones Plans associated with the Unisys Software Migration Plan (SMP) and Year 2000 (Y2K) Remediation projects. The National Climatic Data Center (NCDC) met all critical deadlines to date and anticipates these two projects can be completed by September 30, 1999. NCDC developed local web pages which describe the status of 40 SMP and 55 Y2K applications. The web pages display summaries on these projects and related actions needed to support SMP and Y2K.

Tropical Storm Data Base Updated

The Global Tropical Cyclone Climatology data base has been updated through 1996 for the four Northern Hemisphere Tropical Storm Basins and through 1996-1997 for the two Southern Hemisphere Basins. The data can be obtained via diskette from the Climate Services Division of the National Climatic Data Center.

RADARSAT Archive Planned

The National Climatic Data Center (NCDC) has coordinated with the National Environmental Satellite, Data, and Information Services Office of Research and Applications to discuss archiving of Radar Satellite (RADARSAT) data at NCDC. The RADARSAT data will be archived at NCDC.

✦ Data and Information Distribution

Eastern Storm Web Page

The National Climatic Data Center (NCDC) placed a report on-line which covers the eastern U.S. flooding and ice storm of January 6-9, 1998. The report includes a narrative, rainfall table, satellite and radar images, historical perspective, and links to other sources of information. The combined U.S./Canada death toll from this storm now stands at 42; damage estimates are over $1 billion; and over three million utility customers were without power at some time due to the storm.

Flooding also produced considerable damage in western North Carolina, with rainfall totals in the 3-15 inch range over the area. The report is accessible via NCDC's "Weather Events of 1993-1998" web page:http://www.ncdc.noaa.gov/ol/reports/weather-events.html.

Rawinsonde Replacement System

A draft Program Plan for the National Climatic Data Center's (NCDC) data management activities for the National Weather Services' Rawinsonde Replacement System (RRS) was released. Comments received will be incorporated into the final Program Plan that will be released in February. A Request for Proposal was released to the Regional Climate Centers concerning a study on the uses of high resolution upper air data including RRS, Aircraft, and Profiler data.

NNDCServer Project

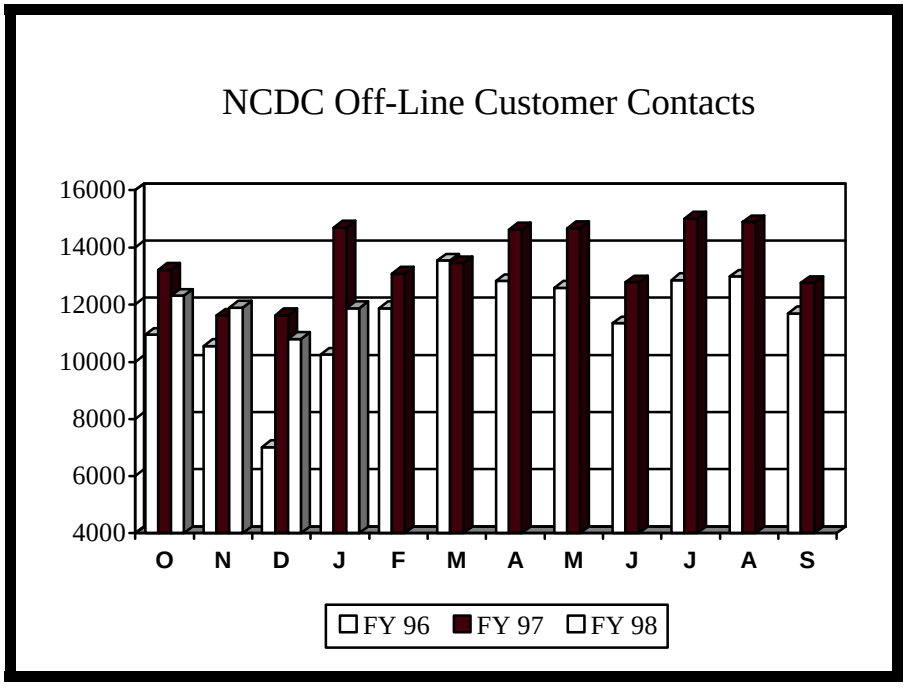
As part of the National Oceanic and Atmospheric Administration (NOAA) Virtual Data System Pilot Project, a version of NOAAServer has been developed for the NOAA National Data Centers' (NNDC) Web server. NNDCServer searches only the National Environmental Satellite, Data, and Information Services datasets. The system requires more testing before it is ready to be made available on the NNDC home page.

Climate Variations Bulletin

As of the January, 1998, issue of the *Climate Variations Bulletin*, the Web copy (readable via Adobe) is the "publication;" all other copies are special orders handled by National Climatic Data Center personnel.

New CD-ROM Released

The National Climatic Data Center (NCDC) has released a new CD-ROM entitled "Hourly United States Weather Observations (HUSWO), 1990-1995." The CD contains more than 12 million hourly weather observations from 262 National Weather Service stations nationwide. This updates an earlier set of CD's (Solar and Meteorological Surface Observation Network, SAMSON) which covered the period 1961-1990. The HUSWO CD has a map interface and station list for data selection, or the user can copy the data files direct from the CD (without using the interface). The elements included are total and opaque sky cover, temperature and dew point, relative humidity, station pressure, wind direction and speed, visibility, ceiling height, present weather, Automated Surface Observing System cloud layer data, snow depth, and hourly precipitation. Due to lack of resources, the National Renewable Energy Laboratory was notable to provide the solar elements that were included on the SAMSON CD. This project was partly funded by the Environmental Protection Agency (EPA), and will be used by numerous EPA offices as input to pollution and air dispersion models.



Normals Comparison

The Southeast Regional Climate Center (SERCC) was provided a copy of the U.S. Divisional and Station Climatic Data and Normals CD-ROM. The 1961-1990 normals for the southeastern states were extracted from the CD and compared with the normals computed from the SERCC's CIRRUS (Climate Interactive Rapid Retrieval User System) data base. Some slight differences between the SERCC's values and those published by the National Climatic Data Center (NCDC) have been noted and are attributed to differences in the method of calculation. The SERCC values were calculated by simply averaging the 1961-1990 monthly observed values, whereas the NCDC values were derived using a complex four-step methodology which involves estimating missing data, adjusting for inhomogeneous records, calculating the average monthly values, and adjusting for time of observation bias.

NCDC Products and Services Guide Updated

The National Climatic Data Center (NCDC) has updated its Products and Services Guide. The Guide is normally updated at least once a year, and paper copies of the new version were available for the January 1998 American Meteorological Society conference. This update is rather extensive, especially for the World Wide Web portion, and now includes highlighted sections of all NCDC on-line systems. The new guide is 103 pages in length vs. 60 pages for the previous version. WordPerfect and PDF versions of the Guide will also be placed on-line for free access via NCDC's home page.

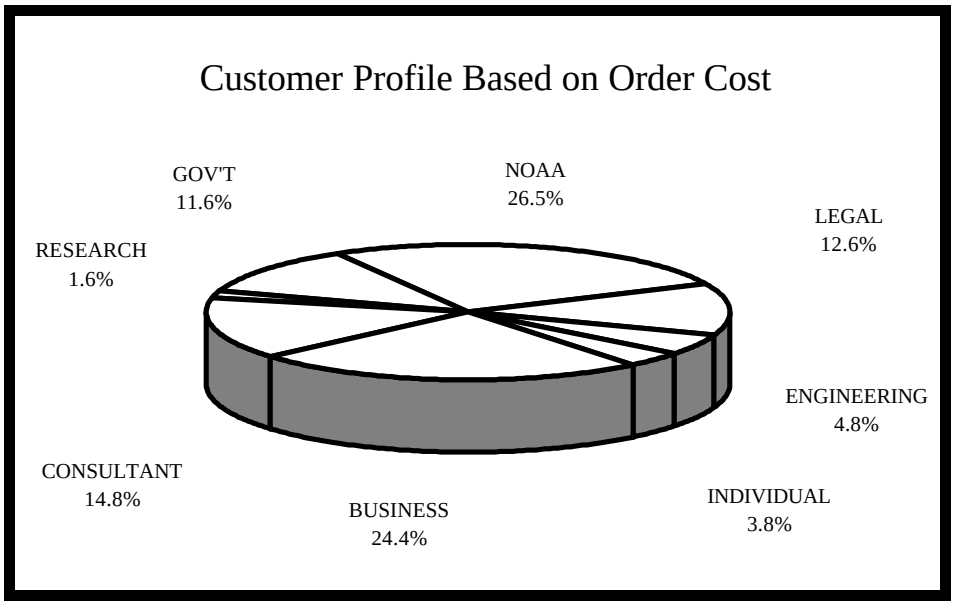
NOAA Weather Charts CD-ROM Changes

The National Oceanic and Atmospheric Administration Weather Charts CD-ROM series for April 1997 was delivered to the contractor for distribution. This now means that commercially replicated CD-ROMs cover the period from the end of microfilm production (September 1994) through April 1997. A list of paid subscribers was prepared; both subscribers and back orders will be supplied using recordable CDs. This should provide a significant savings and provide customers with access to the data. A CD-ROM duplicating machine with printer has been pur-chased; only the required number of CDs will be produced.

✦ Data Requests

NEXRAD Data Provided for NWS Office

The National Climatic Data Center (NCDC) provided Next Generation Weather Radar level II data for four sites to the National Weather Service (NWS) office in St. Louis. The sites were Paducah, KY; Topeka, KS; Sacramento, CA; and St. Louis, MO, with data covering portions of May 1996. NWS is studying severe weather outbreaks during May 1996, and requested the data to support their research.



Satellite Images Provided to Secretary of Commerce

As a good will gesture during a special trade mission to Greece and Turkey, Department of Commerce Secretary Daley and his contingents will present framed satellite images of the host countries to the respective heads-of-state of each. National Climatic Data Center (NCDC) personnel created the colorized images. The Satellite Active Archive was instrumental in allowing the best cloud-free images of these nations to be selected.

GOES-8 Images Supplied for Next Generation Weather Radar (NEXRAD) Training Course

The National Weather Service's Operational Support Facility in Norman, OK, has requested Geostationary Operational Environmental Satellite (GOES) - 8 satellite data files from the National Climatic Data Center. The data files contain visible and enhanced infrared images of convective activity in Minnesota during the summer of 1997. Data will be used in the portion of the CD-ROM based WSR 88-D radar training course which features severe bow echo scenarios.

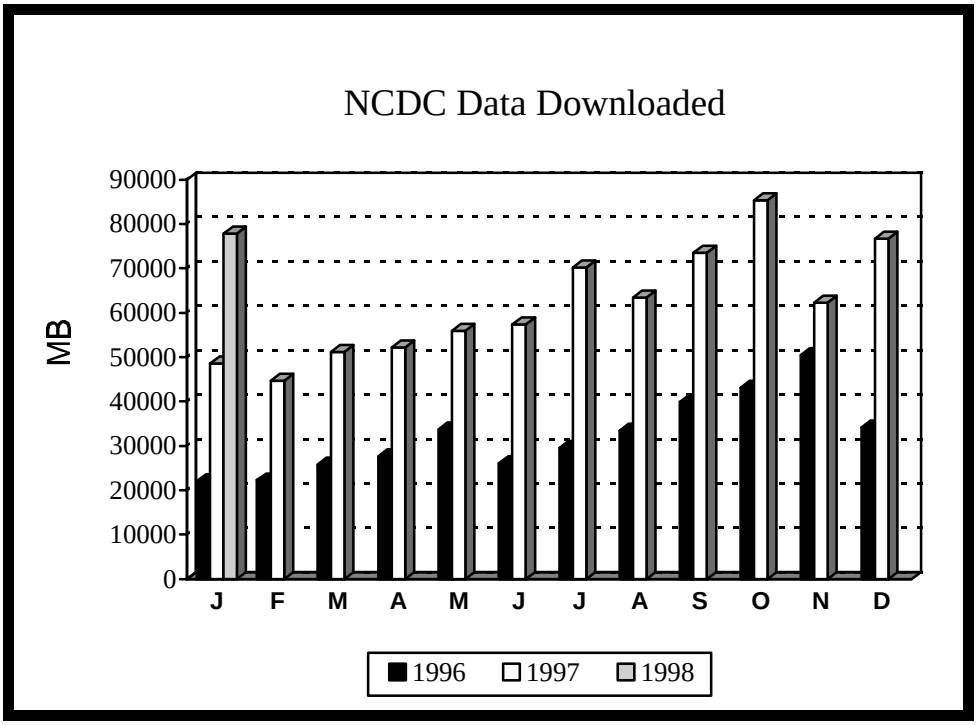
Satellite Data Used to Study Rift Valley Fever

The Centers for Disease Control and Prevention, based in Atlanta, GA, contacted the National Climatic Data Center for assistance in obtaining satellite data gathered by the National Oceanic and Atmospheric Administration's Polar-orbiting Operational Environmental Satellite for the Kenya, Africa, region over the last four weeks. Recent heavy rains are causing tremendous health hazards in northern Kenya and southern Somalia. One major concern is a fatal fever, Rift Valley Fever, which has killed more than 18,000 goats and 300 people in an area around the border of Kenya and Somalia. There is no cure for the disease, which is feared to be spreading. The main vector for the disease is the mosquito, which has bred rampantly in pockets of small ponds created by El Niño induced rains. Satellite data will be used to measure the increase in surface water over the region and to compare results to normal conditions.

✦ Congressional Requests

Congressional Communications

David Easterling prepared a subset of the U.S. Historical Climatology Network (USHCN) analyses for Montana and made it available to Michael Ling, a staffer for Senator Max Baucus of Montana. USHCN is the most reliable source available for temperature and precipitation trend information in the United States.



✦ Requests from News Media

WLOS Interview

Tom Ross, of the National Climatic Data Center, was interviewed by WLOS TV (ABC's affiliate in Asheville, NC) on January 26, 1998, concerning the record wet weather in the Asheville area during January 1998.

Documentary on the Blizzard of '93

The National Geographic Society was provided Geostationary Operational Environmental Satellite (GOES) and Polar-orbiting Operational Environmental Satellite (POES) images of one of the worst blizzards of the decade, and probably of this century. The best image will be used in the "National Geographic" magazine as an advertisement which spotlights an upcoming television documentary on the storm. The Blizzard of '93, sometimes called the "Storm of the Century," was one of the strongest winter storms ever to hit the eastern third of the U.S. Over 200 people in 13 states lost their lives during the March 12-15, 1993, storm.

✦ Interesting Requests

Andean Tree Lines

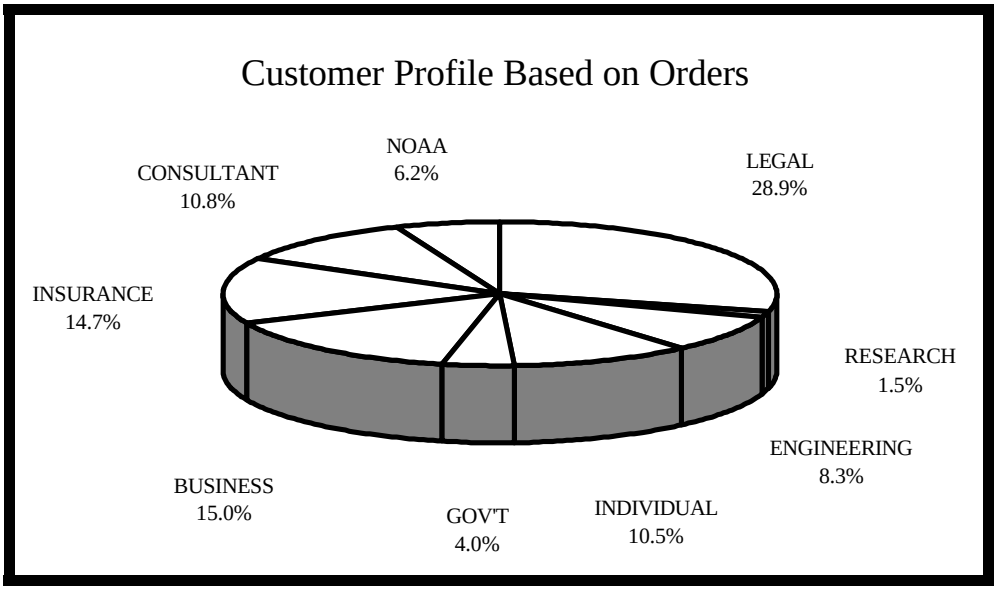
A graduate student at the University of Colorado contacted the National Climatic Data Center (NCDC) to obtain monthly climatological data for selected stations in Chile and Argentina. The student is conducting a climatological study of altitudinal tree lines in the southern Andes. Preliminary data indicates altitudinal tree line populations have increased in Chile since 1960 and in Argentina since 1977. NCDC offered Monthly Climatic Data for the World. Once the project is completed, findings will provide new information about the dynamics of tree line forests in the southern Andes and contribute to understanding of the ecological impacts of anthropogenically induced global warming.

Dual Doppler Analysis

Researchers at Colorado State University are conducting a dual doppler analysis involving a comparison of the CHILL (Universities of Chicago and Illinois) radar, a dual polarized, multi-parameter research radar located in Greeley, CO, with the Cheyenne, WY, Next Generation Weather Radar hardware. The National Climatic Data Center provided archive level II data from the Cheyenne WSR-88D to assist in the study of winter storms in the U.S. Weather Research Program project.

Asthma Study

A medical researcher with the University of Texas contacted The National Climatic Data Center (NCDC) to obtain meteorological data to be used in an asthma study. The physician is correlating



petrochemical emissions with asthma episodes experienced by individuals in the Galveston Bay area. The researcher hopes to associate higher rates of asthma with variable prevailing wind conditions in the local area. The NCDC offered Datsav Summary of the Day data along with Datsav hourly surface weather observations for Galveston on exabyte tape for January 1986 through November 1997.

NCDC Aids NOS

The National Ocean Service (NOS) contacted the National Climatic Data Center (NCDC) to obtain meteorological data for Houston, Port Arthur, and Galveston, TX. The data will be used in a three dimensional hydrodynamics model which simulates currents and water levels in Galveston Bay. The NOS issues forecasts which support navigation in Galveston Bay's shipping channel. The NCDC provided hourly surface weather observations for 1997 on diskette.

✦ Technology Applications

Document Management System

On January 21, 1998, the National Climatic Data Center (NCDC) demonstrated NCDC's Document Management System to representatives of the National Oceanographic Data Center (NODC), National Geophysical Data Center (NGDC), National Environmental Satellite, Data, and Information Service (NESDIS), Hyland Software Inc., and Integrated Document Management, Inc. The process to scan bar coded Cooperative Observer forms was demonstrated. This allows immediate access to these data by any user with the OnBase client software installed on their PC as well as allowing the servicing of customer requests by facsimile or printed paper by the services contractor. Also demonstrated was how NCDC's Serial Publications, Technical Reports, and Environmental Information Summaries can be displayed, printed, or faxed from the system.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

✦ Working Groups/ Committees/Meetings

The Second Annual Satellite Applications Conference Planned for Asheville

The second annual Satellite Applications Conference will be held at the Grove Park Inn in Asheville, NC, February 24-26, 1998. The agenda includes sessions on World Wide Web Access to Satellite Data, Satellites in the Classroom, Natural Hazards Monitoring Using Satellite Data, and Satellites and the Private Consultant.

Climate Research Committee Meeting

Thomas Karl, the National Climatic Data Center's Senior Scientist, attended the National Academy of Science, Climate Research Committee's meeting. The purpose of the meeting was to develop a report on the status of observing systems for detecting climate change, in response to a request from the U.S. Global and Climate Research Program.

ASHRAE Meeting

Marc Plantico, of the National Climatic Data Center (NCDC), attended the winter American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) meeting in San Francisco, CA, January 17-21, 1998. A highlight of the meeting was an open forum for the ASHRAE membership entitled "Discussion and Feedback on the New Climatic Design Data in the 1997 Handbook of Fundamentals." Members were

happy with new tables which offer improvements: number of locations with design data increased from 1079 to 1443 (most are international sites); period of record was updated from 1950-64 to 1982-93 (1961-93 for U.S. SAMSON locations); new psychometric data (design dew point, humidity ratios, etc.) were added, and design values were computed using annual percentiles rather than seasonal frequency of occurrence. Several countries questioned why certain stations were dropped from the previous edition. The reason was data for those stations did not meet criteria for completeness established by the Weather Committee.

METOP Ground Systems Meetings

The National Climatic Data Center (NCDC) participated in Meteorological Operational Satellite (METOP) Ground Systems meetings January 8th and 30th. National Environmental Satellite, Data, and Information Services is putting together a first-cut at funding require-ments for various elements of the ground systems for the METOP satellite, which is scheduled for launch in 2003. The data will be received in packetized Level 1b format to meet product delivery schedules using pipelined processing. This requires a significant change to processing systems while still supporting the existing processing system for the National Oceanic and Atmospheric Administration's Polar-orbiting Operational Environmental Satellites. NCDC can elect to concatenate the Level 1b packets (20 per orbit) into orbital files, or archive the packets and achieve finer granularity at the expense of more inventory overhead.

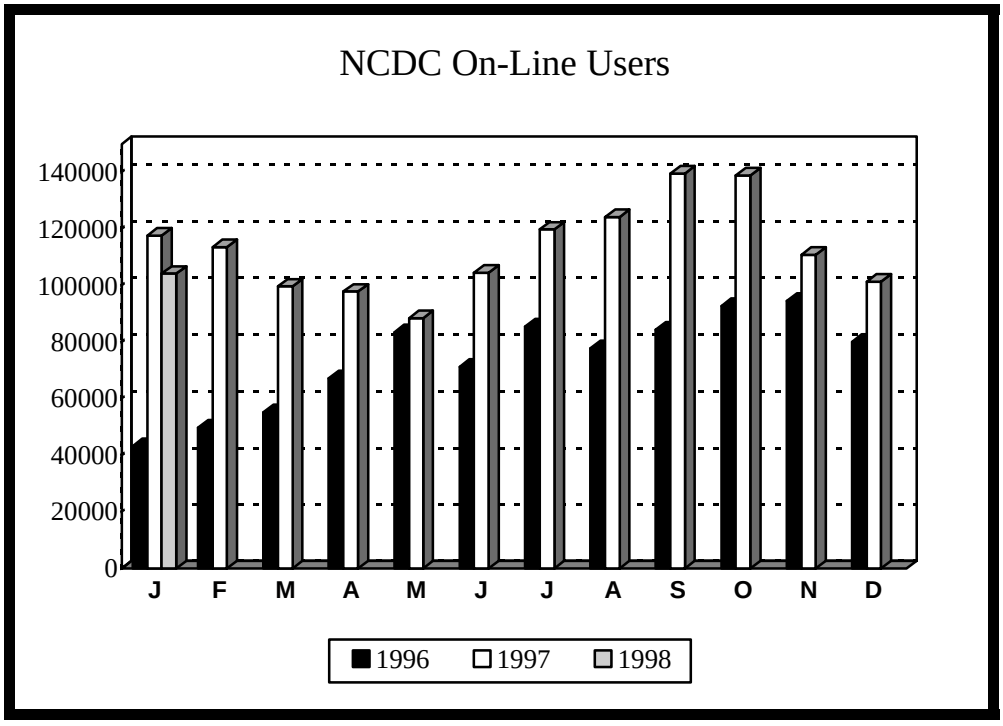
ATOVS/AMSU-B Archive

Representatives of the National Climatic Data Center (NCDC) met with representatives of the Information Procurement Division and Satellite Active Archive (SAA) to discuss archive plans for the Advanced TIROS Operational Vertical Sounder (ATOVS) and Advanced Microwave Sounding Unit-B (AMSU-B) products from NOAA-K. AMSU-B soundings will be produced operationally 12 months after launch, and ATOVS will be operational 18 months after launch. SAA currently has no plans to archive this data. NCDC provided guidance on data content and formats, as well as the use of NCDC's new automated archive system.

✦ Visitors

SERCC Director Visits NCDC

Dr. Mike Helfert, Director of the Southeastern Regional Climate Center (SERCC), visited the



National Climatic Data Center (NCDC) on January 30, 1998. Discussions covered a wide range of items of concern to both Centers.

✦ Interactions with NOAA Line Offices

NCDC Personnel Visit NOAA and NODC

National Climatic Data Center (NCDC) personnel, Ev Kendall, Jody Klein, and Doug Snowden, visited the National Oceanic and Atmospheric Administration (NOAA) Network Information Center, the Research Development Center, the Network Operations Center, and offices of the National Oceanographic Data Center (NODC). These visits were coordinated to research communication upgrade alternatives to support the NOAA Virtual Data system Concept of Operations.

NCDC Provides Cooperative Data Usage Statistics to National Weather Service

The National Climatic Data Center (NCDC) provided FY 1996-1997 statistics on the number of orders received for cooperative data to Phil Clark, National Weather Service (NWS) Cooperative Program Manager selectee. The NWS is interested in seeing the volume of data usage for the past two years. During those two years, there were over 32,000 orders for the data, either in digital or in paper copy form.

EMPLOYEE ACTIVITIES

✦ EEO and Community Outreach

CFC Local Federal Coordinating Committee

Karol Pittman of the National Climatic Data Center is a member of the Local Federal Coordinating Committee for this year's Combined Federal Campaign (CFC). The committee's purpose is to ensure adherence to the Office of Personnel Management guidelines and assist CFC chairpersons in directing the campaign.

✦ Personnel Resources

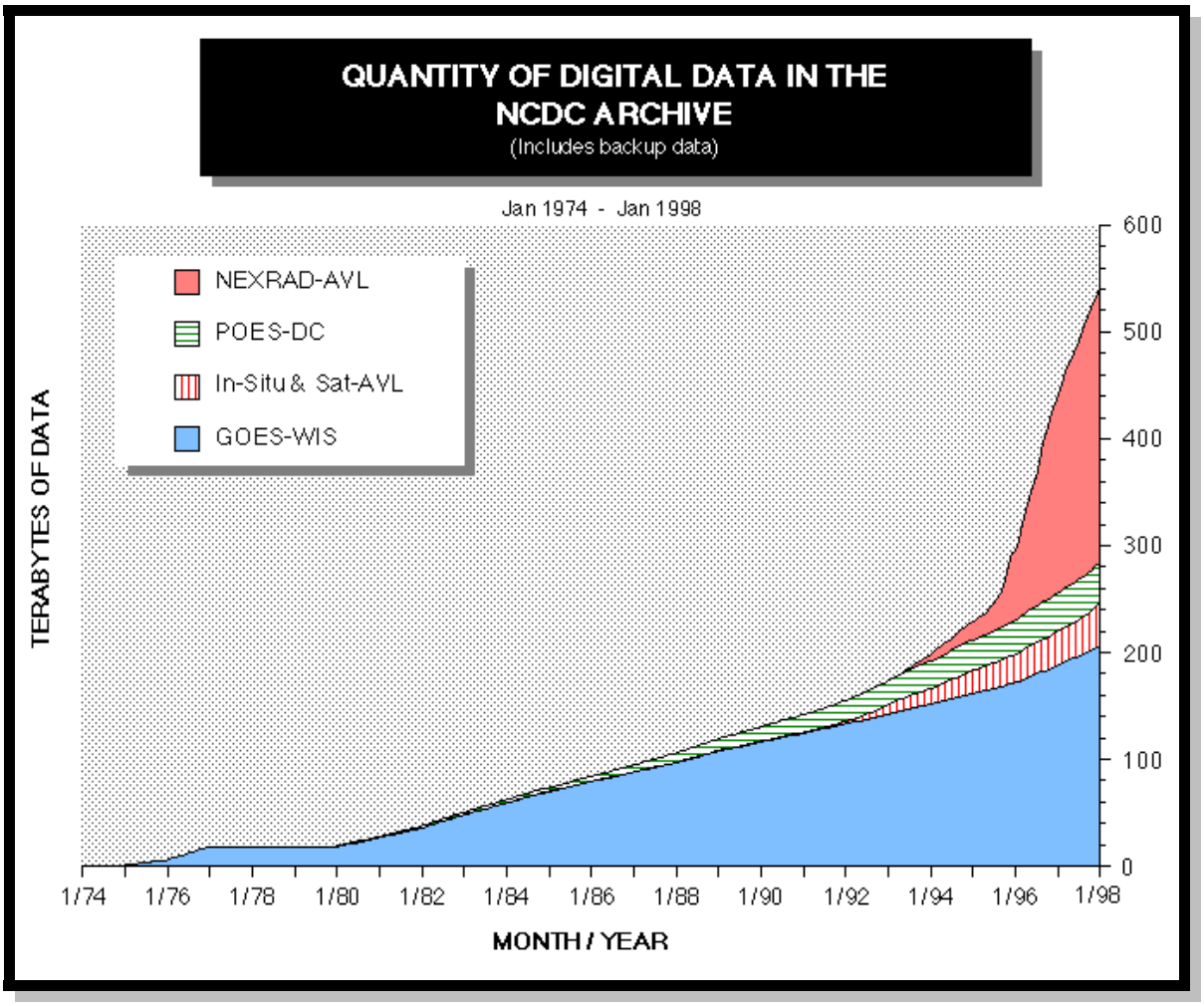
New COMPS Administrator Selected

The National Climatic Data Center's (NCDC) Katherine Fincher was selected to be the new Customer Order Management Processing System (COMPS) Administrator. COMPS will replace the Customer Order Servicing and Tracking System at NCDC in June, 1998. The COMPS system is being developed by Unisys contractors in Virginia Beach, VA. The National Oceanographic Data Center has already implemented COMPS and the National Geophysical Data Center is expected to implement it later this year. Vickie Wright and Debi Franklin will backup Katherine in this capacity.

✦ Training

Total Quality Management Course

Billie Faye Maybin, of the National Climatic Data Center (NCDC), attended the Total Quality Management course sponsored by the Air Force Combat Climatology Center in Asheville, NC, on January 26-30.


QUANTITY OF DIGITAL DATA IN THE NCDC ARCHIVE
(Includes backup data)
Jan 1974 - Jan 1998
NEXRAD-AVL
POES-DC
In-Situ & Sat-AVL
GOES-WIS
TERABYTES OF DATA
600
500
400
300
200
100
0
1/74
1/76
1/78
1/80
1/82
1/84
1/86
1/88
1/90
1/92
1/94
1/96
1/98
MONTH / YEAR